

**REMARKS**

The Office Action dated June 22, 2011, has been reviewed carefully and the application has been amended in a sincere effort to place it in condition for allowance. All objections and rejections are respectfully traversed.

Claims 30, 31, 33 – 48, 50 and 51 are pending in the case.

***Statement of the Substance of the Interview***

Pursuant to MPEP §713.04, Applicant makes the following statement: A telephonic interview was held on October 5, 2011 between Examiner Nay Tun, and representatives of the Applicant Rita M. Rooney and Patricia A. Sheehan.

Applicant's proposed a claim amendment namely: "said microcontroller being further configured to adapt the operation of the household appliance based upon data detected by said internal and external sensors." Support for this amendment can be found in the originally filed Specification at Page 4, lines 23 – 24. An agreement was reached as to that point, and the Examiner indicated that the proposed Amendment overcomes the cited art, but he will have to perform an additional search and consider the matter further.

***Claim Objections***

Claims 40 and 47 were rejected based upon minor typographical errors, the Applicant respectfully thanks the Examiner for pointing out these errors. Appropriate corrections have been made.

***Claim Rejections – 35 U.S.C. §112***

Claims 47 and 48 were rejected as failing to comply with the written description required on the grounds that the terms "the one or more internal sensors measure...one or more electrical quantities." This is considered to be new matter as stated by the Examiner on the basis that the application describes the electrical quantities as being external, and not internal. Claim 47 has been amended in accordance with the discussion in the interview as follows: "the one or more internal sensors measure one or more physical internal quantities or external sensors measuring one or more electrical quantities of the household electrical appliance."

With respect to support in the originally filed Specification, the Specification states that there is "an additional draw of electric power by the electrical resistance used for warming up the washing liquid employed for the treatment..." Specification, Page 11, Lines 6 - 10. This is clearly a teaching of an internal electrical quantity that is measureable by the system of the present invention. Additionally, there are many passages in the Specification citing "physical and/or electrical quantities," with no distinction between the two as to internal or external – thus it can be inferred that both physical and electrical quantities can be internal or external. *See also:* Specification, Page 10 lines 26-31.

Applicant respectfully submits that Claims 47 and 48 are in compliance with the written description requirement.

***Claim Rejections – 35 U.S.C. §112***

Claims 30-31, 33-48 and 50 were rejected under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which application regards as the invention.

With respect to the rejection of Claim 41, the Examiner has indicated that there is improper antecedent basis. However, Applicant has made a change to the prior paragraph reciting “at least one physical quantity” and this provides proper antecedent basis for the subsequent usage of the term.

Applicant had addressed all of the other claims in the manner suggested by the Examiner.

***Claim Rejections – 35 U.S.C. §102***

Claim 51 was rejected under 35 U.S.C. §102(b) as being anticipated by US Published Patent Application No. 2003/0116177 to Appel et al. (“Appel”).

Among other things, the Examiner indicates that the Appel reference teaches a read and write memory storing a plurality of measurements of at least one physical quantity relating to the washing machine’s operation, to provide a historical analysis of the operation of the washing machine, and a database in which the results of the various readings are stored.

Applicant’s invention, as claimed in claim 51 is not taught by Appel. Appel states, in paragraph 14, that there is a timing device that may be set at a certain period. The period may vary according to the type of washing and cleaning process in cycle. The timing device can also be reset at a certain period after completion of the washing or cleaning process.

In sharp contrast, Applicant’s invention stores a plurality of measurements relative to the overall operation of the washing machine, not just the timing of the cycle as taught by Appel. Applicant’s claimed invention takes all the measurements and provides a historical analysis of the operation of the washing machine. Appel has no

such feature.

Additionally, Claim 51 has been amended to include the language discussed with respect to the other independent claim regarding adapt

Claim 51 has been amended to recite: “adapt the operation of the household appliance based upon data detected by said internal and external sensors. As this teaching is missing from the Appel reference, Appel does not provide an historical analysis of the data. Appel only obtains the information from the previous cycle in order to determine, e.g., the timing of the wash cycle.

These teachings from Appel do not disclose, teach or suggest Applicant’s invention.

Thus, none of the features of Applicant’s dedicated network are disclosed or taught by Appel, then Apple cannot have anticipated Applicant’s claimed invention.

***Claim Rejection – 35 U.S.C. §103***

Claims 30, 31, 33-48 and 50 were rejected under 35 U.S.C. §103 as being unpatentable over U.S. Patent Application Publication 2002/0095269 to Natalini et al. (“Natalini”) in view of U.S. Patent Application Publication 2003/0116177 to Appel et al. (“Appel”) further in view of U.S. Patent No. 6,453,687 to Sharood and further in view of U.S. Patent No. 6,960,234 to Shibaki et al. (“Shibaki”).

As stated in earlier prosecution, Applicant’s invention is an electric appliance monitoring device that monitors a plurality of electrical and physical quantities which are representative of the state and/or operation of the appliance. The exemplary embodiment of the appliance described in the Specification is that of a washing machine. Applicant’s invention involves employing a monitoring system to analyze the operation and state of

the monitored electrical appliance(e.g., a washing machine). The system measures internal physical quantities and external physical quantities as well as electrical quantities that are representative of the operation of the electrical appliance at a given point in time.

The physical and electrical quantities are measured by a combination of physical internal sensors, physical external sensors and electrical sensors. The sensors are placed throughout the appliance and the appliance fittings.

The external physical quantities are measured at external sensors that are positioned at external locations, such as the appliance fittings.

The sensors allow a user to oversee the operation of the household appliance based on the data detected by the sensors. Additionally, the sensors such as the sensors 93-96 (Fig. 1) allow the electronic control means 10 to adapt the operation of the household appliance based on data detected by such sensors.

For example, in the case of a washing machine, a flow sensor may be positioned along an inlet pipe and the sensor is adapted to measure the water flow rates into the washing machine. This measurement is taken externally in order to isolate it from water and vibrations within the washing machine drum, which may interfere with the accuracy of the measurements of the flow rate. As noted, the external placement isolates the sensor from vibrations, and/or water that remains in the washing machine. These external sensors transmit detected data through a dedicated communication network that is external to the washing machine.

As stated in earlier prosecution, the Natalini reference, which is assigned to a common assignee as the present invention, describes a system for monitoring and servicing appliances. More specifically, a number of appliances are coupled to a

common bus 40. A gateway sends information to a remote center 50 which in turn sends information to service centers 52, 54 and to the user. Fig. 2 illustrates a washing machine 18 and a refrigerator 14. *See* Page 4, Paragraph [0040]. The sensors 114 to 128 in Fig. 2 appear to be within the appliance, and not external to the appliance. Further, an adapter measures electrical quantities. Applicant's sensors include internal physical sensors, *external* physical sensors and electrical sensors.

By using internal, external and electrical sensors, Applicant's system is able to monitor operations of the appliance using the most appropriate combination of data. As discussed, monitoring the appliance while draining may be best characterized by a combination of the sensing of external flow rate, internal valves state and an electrical quantity appropriate for the draining operation, such as the end of an agitation cycle. Using a combination of data from all three sensors provides more information than measuring only internal and electrical quantities (e.g., water valve and end of agitation) which would not, for example, detect leaking fittings. Additionally, Applicant's monitoring system can further adapt the operation of the household appliance based upon data detected by the internal and external sensors.

Absent these key features of Applicant's invention, it is respectfully submitted that Natalini alone does not render Applicant's invention obvious.

The Examiner indicates that the Appel reference teaches installing sensors non-intrusively to an existing washing machine without requiring to invade the washing machine housing. The Examiner refers to paragraph 13 and paragraph 26 of the Appel reference. It is first noted that the Appel reference contains no drawings so it is not entirely clear how the elements are located with respect to each other.

Appel is providing solutions for dispensing detergent into a washing machine. Appel is teaching various ways of applying non-intrusive automatic dosing systems for soaps and such that are capable of being used with a fabric or dishwashing liquid and it has a container for a product or ingredient suitable for use in fabric washing or dishwashing.

Appel teaches that the dosing system can be reset, it does not teach that the operation of the household appliance can be adapted based on data detected by such sensors. Applicant's Specification Page 4, lines 23-25. Thus, combining the Appel reference with Natalini still does not give rise to Applicant's feature in which the operation of the appliance can be adjusted based on the data which is accumulated from the sensors.

The Examiner has applied the Sharood reference to indicate that it discloses a current sensor that measures the current running through the monitoring device. However, even adding this feature to Natalini and Appel, the combination does not disclose, teach or suggest Applicant's electronic control means which functions to adapt the operation of the household appliance based upon the data detected by the sensors. Thus, Sharood's teaching of the current sensor does not add a teaching to the combination that would give rise to it causing Applicant's invention to be obvious.

To the contrary, Applicant's system also provides that the microcontroller 30 of the monitoring device 9 detects the onset of a malfunction which requires, for safety reasons, which the washing machine will be immediately shut off by the monitoring device. This is another aspect of the device controlling the appliance.

The Examiner cites the Shibaki reference as disclosing the storing of newly

generated data causing the deletion of old data. This teaching does not render obvious Applicant's invention, in that once the data is stored, the electronic control means can use this data to adjust the operation of the appliance based upon the measured data. Specification Page 4, line 23-24. Neither Shibaki, Natalini Appel or Sharood discloses this feature. Thus, the references taken either alone, or in combination, do not disclose, teach or suggest Applicant's claimed invention.

With respect to the rejection of Claim 41, the same arguments apply as to Claim 30. However, with respect to Claim 41, the Examiner goes on to state that Appel teaches installing sensors non-invasively to an existing washing machine. However, Applicant is not providing solutions with respect to retrofitting sensors for dosing and dispersing detergents and such. Applicant provides internal and external sensors. Applicant's inventive features of having internal and external sensors. The external sensors are positioned along the external parts of the washing machine, to avoid any variations in the measurements due to the agitation and rotation of the drum. This is not taught by Appel..

With respect to claim 47, the same arguments apply to similar claim elements as already discussed. However, Claim 47 additionally includes a limitation that: "collect information that allows the system to trace a history of the monitored electric appliance that permits the microprocessor to build in the read and write memory, profiles being indicative of a trend within a *preddefined time period of a particular physical quantity* or typology of information obtained by the microcontroller...."

In contrast, Appel teaches that the system obtains information for "all of the cycles." This suggests that Appel can store data, but as to all of the cycles, whereas the Applicant's solution allows a profile to be created based upon a predetermined time

period.

### SUMMARY

All of the claims have been amended herein either directly or through dependency in order to better claim the invention and to further clarify the distinctions that Applicant's invention has over the cited art. All independent claims are believed to be in condition for allowance therefore all dependent claims are also in condition for allowance.

Should the Examiner deem that a telephonic interview will further the prosecution of the invention, please contact the undersigned at the Examiner's convenience.

Please charge any additional fee occasioned by this paper to our Deposit Account No. 03-1237.

Respectfully submitted,

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